

Notice of Allowability

Application No.

10/634,993

Examiner

Monica M. Pyo

Applicant(s)

NISHIKAWA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 15 May 2006.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. In the Amendment filed on 5/26/2006, claims 1-8, 10-18 are amended.

Examiner's Amendment

2. An Examiner's amendment to the record appears below. Should be change and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
3. Authorization for this Examiner's Amendment was given in a telephone interview with Mr. Carl Brundidge on 7/18/2006.

4. **IN THE CLAIMS;**

A. Rewrite claims 1, 8, 10, 14, 15, 16 and 18 as follows;

Claim 1. (Currently Amended) A database system comprising:

a center server;

a single or a plurality of local servers;

a first network for mutually connecting said center server and said single or the plurality of local servers;

a plurality of local storage subsystems for storing local databases managed by said single or the plurality of local servers;

a center storage subsystem for storing ~~replications of said local databases~~ a plurality of replicated databases of said local databases; and

a second network for mutually connecting said center server, said center storage subsystem, said single or the plurality of local servers and said local storage subsystems, wherein:

said center server includes replication requesting means for sending a database replication request to each of said single or the plurality of local servers for requesting said single or the plurality of local servers to replicate the local databases and data consolidating means for performing a process of consolidating the replicated local databases so that said center server ~~can~~ ~~access~~ accessing to a the plurality of replicated databases of said local databases at substantially the same timing in a consolidated manner in said center storage subsystem; and

each of said single or the plurality of local servers includes local database freeze requesting means for requesting a database management system to freeze said local database in responsive to the database replication request ~~to request a database management system to freeze said local database~~, and database replicating means for causing said local storage subsystems to replicate, in said center storage subsystem, said local databases stored in said local storage subsystems, and

each of said single or the plurality of local servers controls to freeze said local databases in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Claim 8. (Currently Amended) A center server in a database system having a center server, a single or a plurality of local servers, a first network for mutually connecting said center server and said local servers, a plurality of local storage subsystems for storing local databases

managed by said local servers and a second network for mutually connecting said center server, center storage subsystem, local servers and local storage subsystems, wherein:

said center server includes replication requesting means for sending a database replication request to each of said single or the plurality of local servers for requesting said single or the plurality of local servers to replicate the local databases and data consolidating means for performing a process of consolidating said replicated local databases so that said center server ~~can access~~ accessing to a the plurality of replicated databases of said local databases at ~~substantially the same timing~~ in a consolidated manner in said center storage subsystem; and

each of said single or the plurality of local servers includes local database freeze requesting means for requesting a database management system to freeze said local database in responsive to the database replication request ~~to request a database management system to freeze said local database~~, and database replicating means for causing said local storage subsystems to replicate, in said center storage subsystem, said local databases stored in said local storage subsystems, and

each of said single or the plurality of local servers controls to freeze said local databases in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Claim 10. (Currently Amended) A method for accessing a database system having a center server, a single or a plurality of local servers, a first network for mutually connecting said center server and said single or the plurality of local servers, a plurality of local storage subsystems for storing local databases managed by said single or the plurality of local servers, a

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center storage subsystem for storing ~~replications of said local databases~~ a plurality of replicated databases of said local databases and a second network for mutually connecting said center server, said center storage subsystem, said single or the plurality of local servers and local storage subsystems, wherein,

said center server sending a database replication request to each of said single or the plurality of local servers ~~requests~~ for requesting said single or the plurality of local servers to replicate the local databases and performing a process of consolidating, said replicated local databases so that said center server ~~can access~~ accessing to a the plurality of replicated databases of said local databases ~~at substantially the same timing~~ in a consolidated manner in said center storage subsystem; and

each of said single or the plurality of local server responds to a request for database replication from said center server to request a database management system to freeze said local database and cause said local storage subsystems to replicate, in said center storage system, the local databases stored in said local storage subsystems, and

each of said single or the plurality of local servers controls to freeze said local databases in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Claim 14. (Currently Amended) A process program ~~for~~ executing a process in a center server in a database system having said center server, a single or a plurality of local servers, a first network for mutually connecting said center server and said single or the plurality of local servers, a plurality of local storage subsystems for storing local databases managed by said local

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servers, a center storage subsystem for storing replications of said local databases, and a second network for mutually connecting said center server, center storage subsystem, local servers and local storage subsystems, said process program comprising:

a module for sending a database replication request to each of said local servers making a request to said single or the plurality of local servers for replication of said local databases so that said center server ~~can access~~ accessing to a the plurality of replicated databases of said local databases ~~at substantially the same time~~ in a consolidated manner in said center storage subsystem;

a module for receiving a notice of remote volume split completion based on the replication request made to said local databases;

a module for requesting database freeze of a shadow image of said replication local databases;

a module for requesting volume synchronization; a module for requesting volume split when the volume synchronization is completed ~~to performing~~ a volume replication for reflecting update information applied to the replication databases upon the shadow image; and

a module for thereafter requesting release of freeze of ~~the a~~ a-center database,

wherein said single or the plurality of local servers controls to freeze said local databases in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Claim 15. (Currently Amended) A process program for executing a process in a local server in a database system having said center server, a single or a plurality of local servers, a

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first network for mutually connecting said center server and said local servers, local storage subsystems for storing local databases managed by said local servers, a center storage subsystem for storing replications of said local databases, and a second network for mutually connecting said center server, center storage subsystem, local servers and local storage subsystems, said process program comprising:

a module responsive to a request for database replication of said database from said center server to request a database management system to freeze said local database so that center server can access to a plurality of replicated databases of said local databases at substantially the same timing in a consolidated manner in said center storage subsystem:

a module for requesting said local storage subsystem to cause it said local storage subsystems to replicate, in said center storage subsystem, said local database stored in said local storage subsystem,

said local server controls to freeze said local database in response to the database replication request by inhibiting subsequent updates of said local database and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases,

a module for receiving a notice of split completion from said local storage subsystem based on said replication request; and

a module for informing said center server of the split completion.

Claim 16. (Currently Amended) A database system comprising:

center server,

local servers;

local storage subsystems which store local databases; and

a center storage subsystem which stores replication local databases representing replications of said local databases, wherein

said local servers are mutually connected through a first network;,,

said center server, said center storage subsystems, said local servers and said local storage subsystems are mutually connected through a second network,

said center server includes a replication requesting unit which sends a database replication request to each of said local servers and requests said local servers to replicate local databases and a data consolidating unit which performs a process of consolidating said replicated local databases so that center server can access accessing to a the plurality of replicated databases of said local databases ~~at substantially the same timing~~ in a consolidated manner in said center storage subsystem; and

each local server includes a local database freeze requesting unit for requesting a database management system to freeze said local database in responsive to a database replication request ~~from said center server which requests a database management system to freeze said local database~~, and a database replicating unit which causes said local storage subsystems to replicate, in said center storage subsystem, said local databases stored in said local storage subsystems and

said local servers controls to freeze said local database in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Claim 18. (Currently Amended) A center server in a database system, wherein:

said center server is connected to a single or a plurality of local servers through a first network and is connected to said local servers, local storage subsystems which store local databases and a center storage subsystem which stores replications of said local databases through a second network; and

said center server includes a replication requesting unit which sends a database replication request to each of said single or the plurality of local servers to request said single or the plurality of local servers to replicate said local databases, and a data consolidating unit which performs a process for consolidation of said replicated local databases so that said center server ~~can access~~ can access to a plurality of replicated databases of said local databases ~~at substantially the same timing~~ in a consolidated manner in said center storage subsystem,

each of said single or the plurality of local servers includes local database freeze requesting means for requesting a database management system to freeze said local database in responsive to the database replication request ~~to request a database management system to freeze said local database~~, and database replicating means for causing said local storage subsystems to replicate, in said center storage subsystem, said local databases stored in said local storage subsystems, and

each of said single or the plurality of local servers controls to freeze said local databases in response to the database replication request by inhibiting subsequent updates of said local databases and stopping sending of update data to said center server, said update data being used to update replicated local databases representing replications of said local databases.

Allowable Subject Matter

5. Claims 1-18 are allowed.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica M. Pyo whose telephone number is 571-272-8192. The examiner can normally be reached on Mon-Fri 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Monica M Pyo
Examiner
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mp
8/1/2006

Leslie Wong
Primary Examiner